

OWNER'S MANUAL

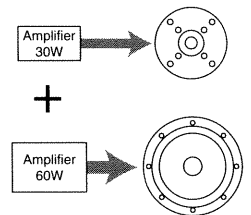
Thank you for purchasing the Roland Bi-Amp Monitor DS-90A. Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3), and "IMPORTANT NOTES" (p. 5). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Main Features

●In Pursuit of High Sound Quality

The DS-90A powered monitor uses a two-way, bi-amplifier design to achieve high sound quality.

The monitor features a 160-mm LF Driver and a 25-mm soft-dome HF Driver as speakers. The amplification includes completely discrete 60-watt and 30-watt DC structural amplifiers designed to achieve high sound quality.



●Digital Input

In addition to XLR and TRS phone analog input, the DS-90A is provided with digital input connectors (coaxial and optical) that support 24-bit digital audio.

Digitally input signals are reproduced faithfully through 24-bit D/A conversion, thus preventing noise or a drop in sound quality.

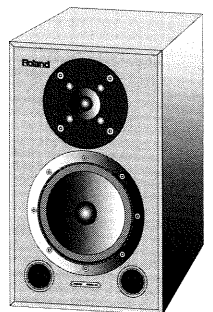
You can use the monitors with a wide variety of equipment and applications through selective use of the analog and digital settings.


●Reproduction of a Variety of Speaker Sounds (combination with the VS or VM)

By connecting the Roland V-Studio (VS series) or V-Mixer (VM series) to the DS-90A and using Speaker Modeling Function of VS or VM, the DS-90A can reproduce the sounds from a wide range of speakers, ranging from the professional monitors from other manufacturers to the speaker in a small household television set.


You can use the DS-90A in combination with the V-Studio or V-Mixer to simulate the sound checks at mixdown, which conventionally have required switching between multiple pairs of monitors set up to compare the sound.

** Please be aware that not all VS/VM series units are capable of providing speaker modeling. Before making your purchase, you should confirm that the unit you are considering does indeed provide the features you desire.*





CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

For the USA

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded.


Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

The product which is equipped with a THREE WIRE GROUNDING TYPE LINE PLUG must be grounded.




USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices








⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols


	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⚡ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ⚡ symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING








⚠ WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual. 
- Do not open or perform any internal modifications on the unit. 
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces. 
- Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged. 
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 
- Protect the unit from strong impact. (Do not drop it!) 
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/ amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through. 

⚠ WARNING

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 

⚠ CAUTION

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit. 
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children. 
- Never climb on top of, nor place heavy objects on the unit. 
- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit. 
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices. 
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (Maintenance → p. 5). 
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet. 

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IMPORTANT NOTES

In addition to the items listed under “IMPORTANT SAFETY INSTRUCTIONS” and “USING THE UNIT SAFELY” on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.
- Do not allow rubber, vinyl, or similar materials to remain on the piano for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
- Do not put anything that contains water (e.g., flower vases) on the piano. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth.



Please also refer to “Important Notes on Placement” (P. 8).

Maintenance

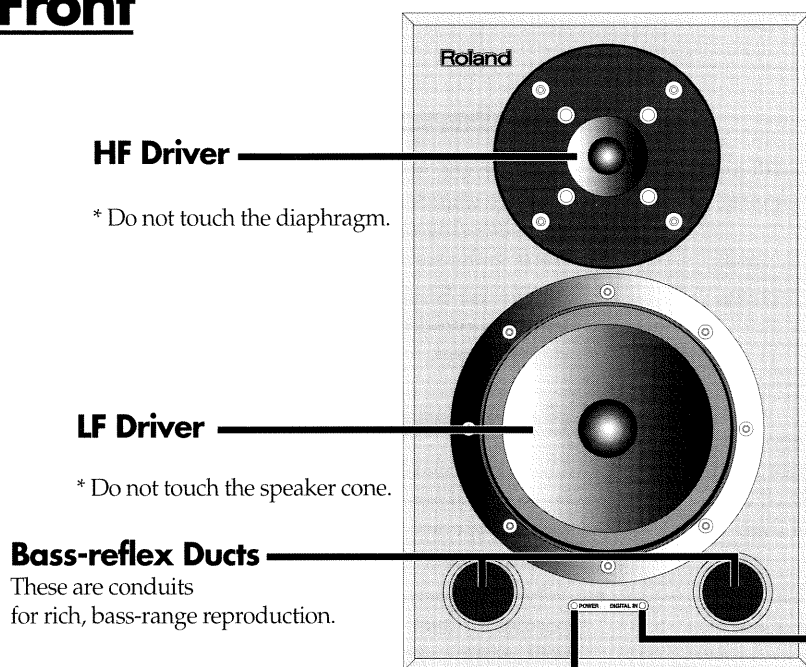
- To clean the unit, use a dry, soft cloth; or one that is slightly dampened. Try to wipe the entire surface of cabinet using an equal amount of strength. Rubbing too hard in the same area can damage the finish.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional Precautions

- Use a reasonable amount of care when using the unit’s buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable’s internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit’s volume at reasonable levels (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
 - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.
- Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:
 - Changing the orientation of the microphone.
 - Relocating microphone at a greater distance from speakers.
 - Lowering volume levels.

Names of Things and What They Do

Front

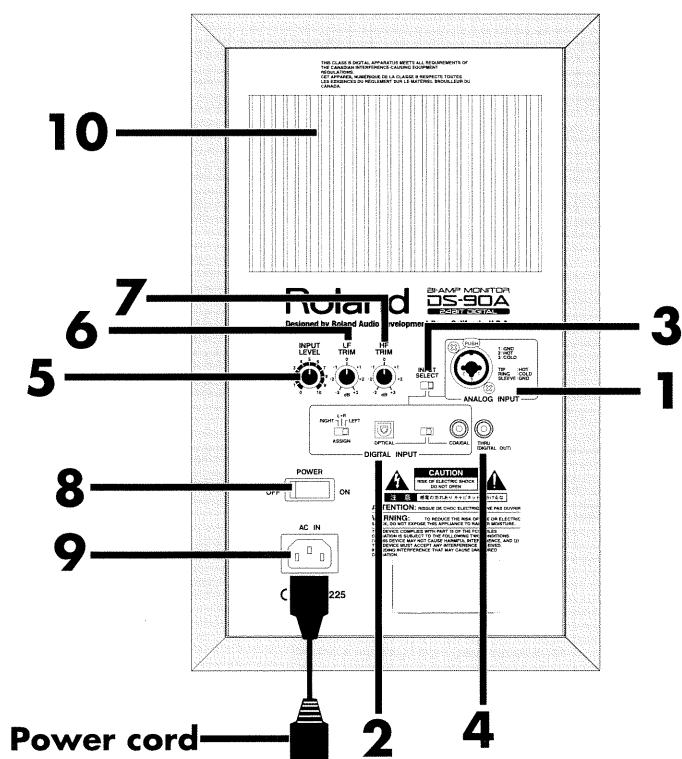


Digital In Indicator

This lights up when output is received from a connected digital device or during standby. Connect the digital-signal output device, set the "Input Select switch" to DIGITAL INPUT, and set the "Digital Input select switch" according to the connector to which the device is attached (Coaxial or Optical).

* When the connected digital-signal output device is not powered up, the Digital In indicator does not light up.

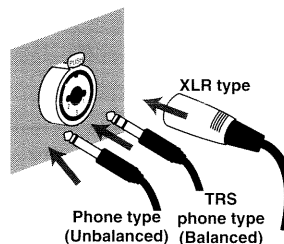
Rear



1 Analog Input

XLR/TRS Phone Input Connector (Analog Input)

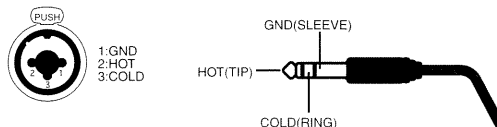
This is for connecting XLR or TRS phone plugs.



Both balanced and unbalanced connections are possible.

NOTE

The pin assignment for the connector is as shown below. Before making any connections, make sure that this pin assignment is compatible with that of all your other devices.



2 Digital Input

Coaxial Input Connector (Digital Input)

This is the digital input connector for coaxial cable.

NOTE

It cannot be used for input of analog audio signals (no sound is produced).

Optical Input Connector (Digital Input)

This is the digital input connector for optic-fiber cable.

Use commercially available optical cable for audio equipment to make the connection.

NOTE

Optical-connector Protective Cap



- After removing the protective cap, put in a safe place so that it doesn't get lost.
- When not using the optical connector, attach the cap to keep the connector safe.
- When using the optical connector, be sure that the cap you removed is placed out of the reach of children. If a child has accidentally swallowed a cap, see a doctor immediately.

Digital Input Select Switch

This switch selects Optical or Coaxial. Select the connector used for the input signal.

Assign Switch

This switch selects the stereo position of the digital signal.

It selects Right, L+R, or Left when using two DS-90A monitors for stereo sound (with digital signals).

Choose the setting appropriate for your setup.



With the DS-90A, there is no difference between L and R. When using the digital input connectors of two DS-90A monitors for stereo sound, the digital signal can be input to either L or R.

3 Input Select Switch

Used to select Digital Input or Analog Input.

Select the connector used for the input signal.

4 Thru (Digital Out) Connector

When connecting multiple DS-90A monitors with digital signals, this connector is used for output to the second DS-90A.



Refer to "Connection Examples" (P. 8,9).

5 Input Level Control

This adjusts the input level. Turning the control clockwise increases the sound from the speakers.

6 LF Trim Control

This adjusts the sound quality of the bass range (60 Hz, +/-3 dB).

7 HF Trim Control

This adjusts the sound quality of the treble range (10 kHz, +/-3 dB).



The LF Trim and HF Trim controls on the DS-90A are designed to correct the sound quality of the sonic field. Use these to make fine adjustments to match the usage conditions.

8 Power Switch

This switch turns the power on/off.

NOTE

- Before turning the power on or off, you must lower the volume of this unit and your connected device etc.
- This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

9 AC Inlet

Connect the included Power cord here. Plug it firmly in, so that the cable does not accidentally become disconnected.

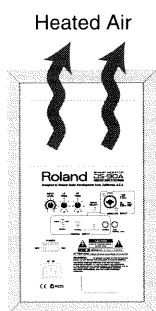
10 Heat Sink

This is a heat-radiating plate that dissipates excess heat.

Connection Examples

Important Notes on Placement

- During setup and transport, be careful not to damage the vibrating portions (the speaker cone and diaphragm).
- Be sure to place the monitor so that the heat sink on the rear panel is not obstructed. Also, make sure the monitor does not touch any curtains or other fabrics.
- The heat sink performs cooling when the monitor is placed as shown below. Do not place the monitor on its side or upside down.



* Please also refer to "Placement" in IMPORTANT NOTES (P. 5).

Precautions When Connecting and Turning on the Power

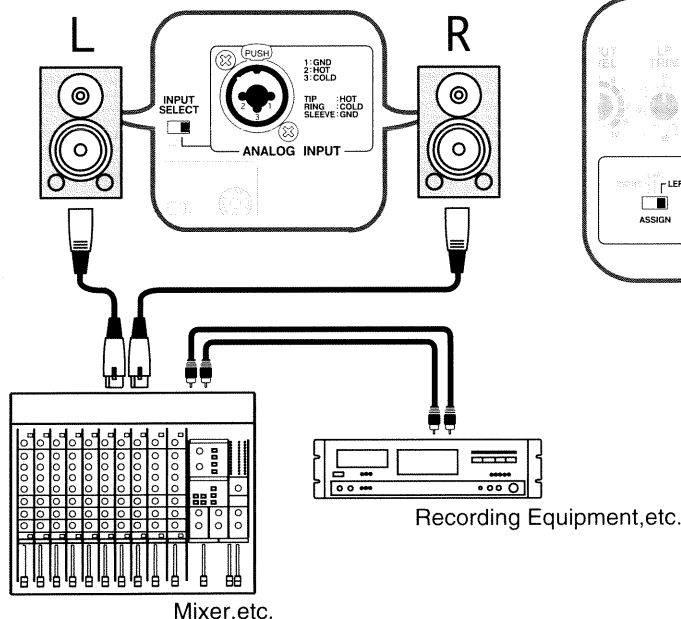
- To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices. (When turning the power off, reverse this procedure.)

Connected devices → DS-90A

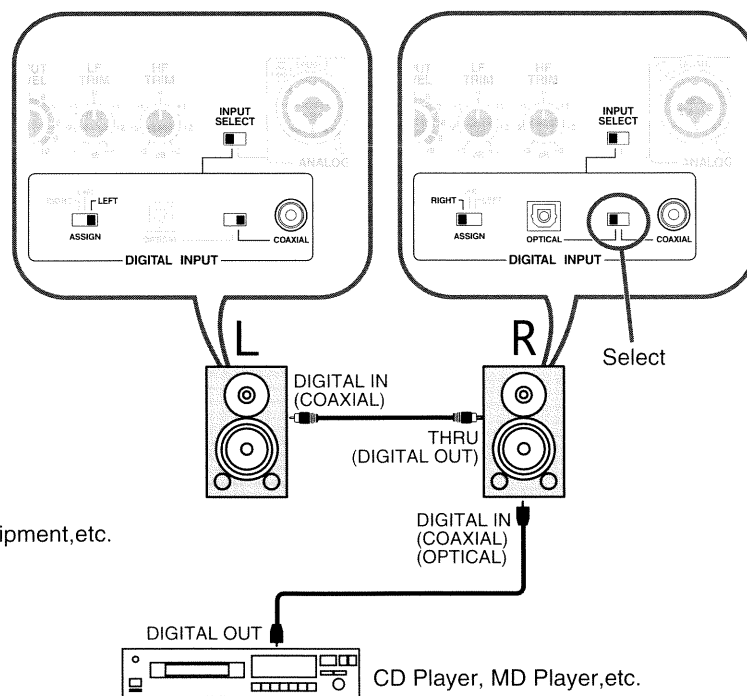
- This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

Using Two DS-90A Monitors for Stereo Sound

Example for Using Analog Input Connectors



Example for Using Digital Input Connectors



Using As a Reference Monitor for the V-Studio or V-Mixer

The Speaker Modeling technology built into the Roland V-Studio (VS series) or V-Mixer (VM series) makes it possible to use the DS-90A as a reference monitor.

NOTE

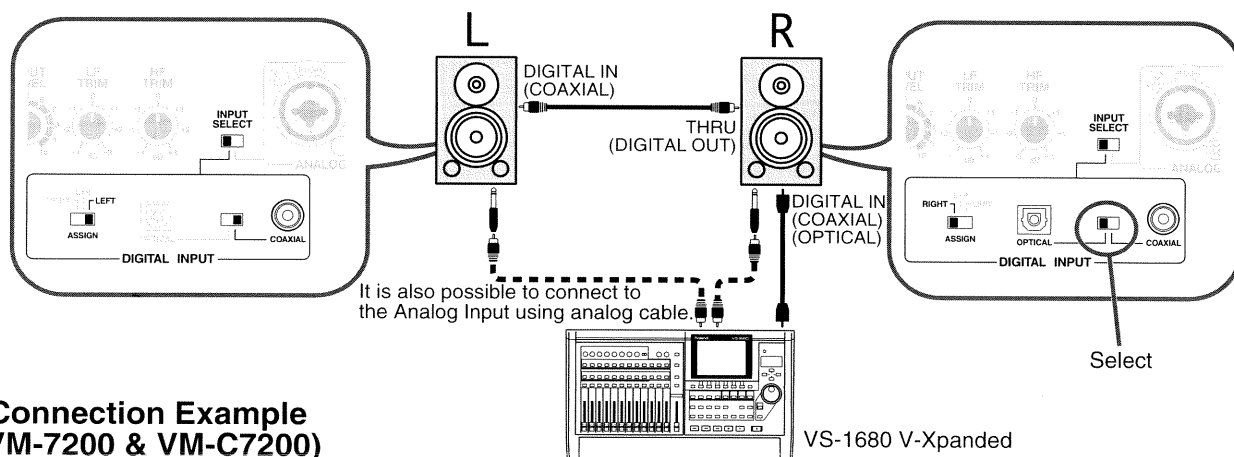
- Please be aware that not all VS/VM series units are capable of providing speaker modeling. Before making your purchase, you should confirm that the unit you are considering does indeed provide the features you desire.
- Speaker Modeling is not possible using just the DS-90A. Take a look at the documentation for the VS/VM series.



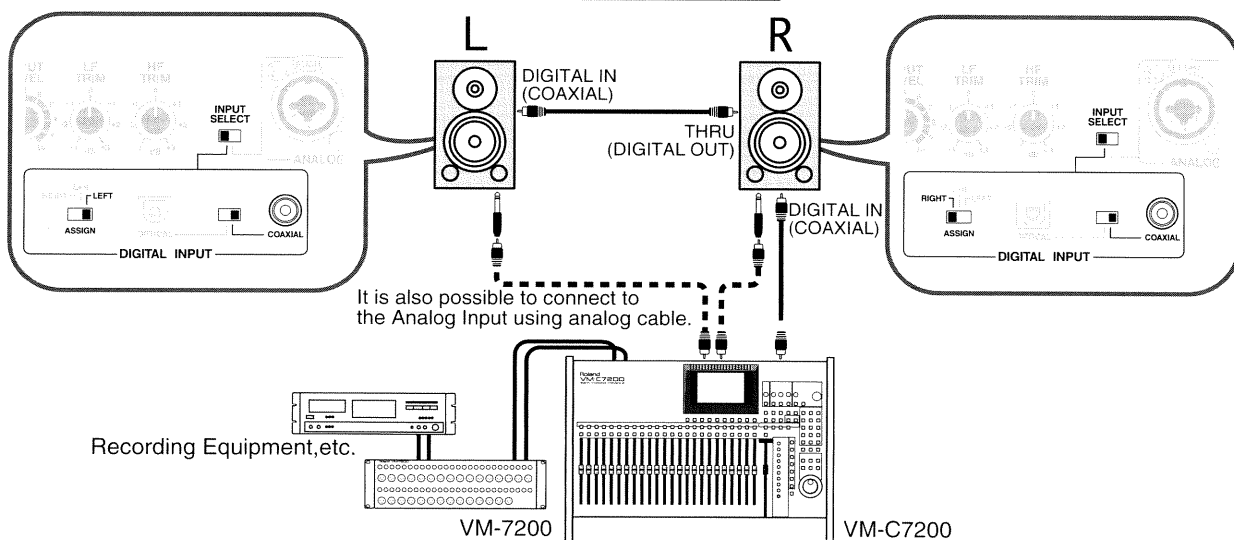
What's Speaker Modeling?

This feature uses digital signal processing to model the changes in sound quality produced by a particular speaker during audio output. This lets you use one type of monitor speaker to emulate speakers from other manufacturers, and even the speakers from small household-use television sets and other equipment. You can use the DS-90A in combination with this to simulate the sound checks at mixdown, which conventionally have required switching between multiple pairs of monitors set up to compare the sound.

Connection Example (VS-1680 V-Xpanded)



Connection Example (VM-7200 & VM-C7200)



Reference

Troubleshooting

If there is no sound or if the unit does not operate as you expect, please check the following points first. If this does not resolve the problem, contact the nearest Roland service center or authorized Roland distributor.

There's No Sound

- Make sure the Input Level control has not been turned fully counterclockwise.
- Make sure the Input Select switch has been set to the connector where the input signal is connected (Digital Input or Analog Input).
- Make sure the Digital Input select switch has been set to the connector where the input signal is connected (Optical or Coaxial).
- Input a digital signal to the Digital Input connector.
No sound is produced when an analog signal is input.

The volume level of the instrument connected to ANALOG INPUT is too low

- Could you be using a connection cable that contains a resistor? Use a connection cable that does not contain a resistor.

During Digital Signal Input, the Stereo Image Is Reversed or Sounds Unnatural, or Output Doesn't Sound Like Stereo

- Check the setting of the Assign switch (Right, L+R, or Left). The DS-90A uses an identical construction for the left and right monitors, and makes no distinction between left and right. During digital signal input, set the Assign switch L or R as appropriate for your setup.

Specifications

●System

2 Way Bi-Amplified Monitor

●Enclosure

Bass-reflex type

●Cabinet

3/4" MDF, Baffle: 1" MDF

●LF Driver

160 mm (6-1/2") Foamed polypropylene cone type, magnetically shielded

●HF Driver

25 mm (1") soft dome type, magnetically shielded

●Frequency Response

48 Hz to 20 kHz (+/-3dB)

●Crossover Frequency

2.6 kHz (active fourth order)

●LF Amplifier Power

60 W

●HF Amplifier Power

30 W

..... Analog in

●Input Sensitivity

0 dBu (0.775 Vrms)

●Input Impedance

20k ohm (Balanced/Unbalanced)

..... Digital in

●Format

Conformity with S/P DIF

●Sample Rate

25 kHz to 55 kHz (de-emphasis: automatic detection of ON/OFF)

●D/A Converter

24 bit

●Controls

INPUT LEVEL Knob

LF TRIM Knob (60 Hz, +/-3dB)

HF TRIM Knob (10 kHz, +/-3dB)

INPUT SELECT SW

(Analog In/Digital In)

ASSIGN SW (Right/L+R/Left)

DIGITAL INPUT SELECT SW

(Coaxial/Optical)

POWER SW

●Indicators

POWER

DIGITAL IN

●Connectors

ANALOG INPUT(XLR/TRS PHONE, Balanced/Unbalanced)

DIGITAL INPUT (Optical)

DIGITAL INPUT (Coaxial)

DIGITAL THRU OUT (Coaxial)

●Power Supply

AC117 V, AC230 V or AC240 V

●Power Consumption

80 W

●Dimensions

228.6 (W) x 381.0 (D) x 371.5 (H) mm

9 (W) x 15 (D) x 14-5/8 (H) inches

●Weight

15 kg / 33 lbs. 2 oz.

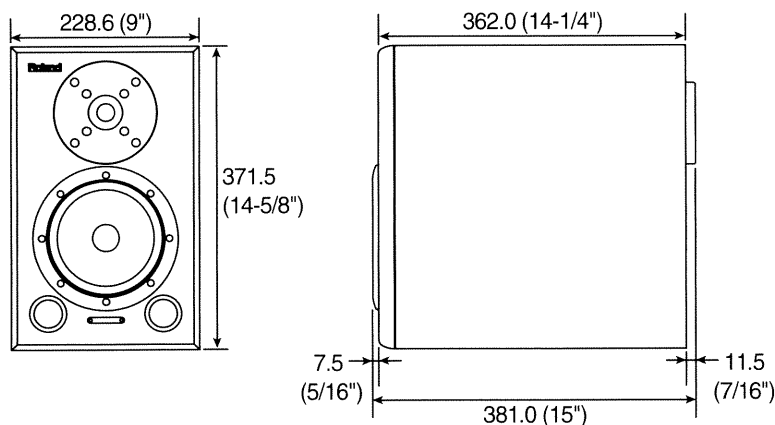
●Accessories

Owner's Manual

Power cord

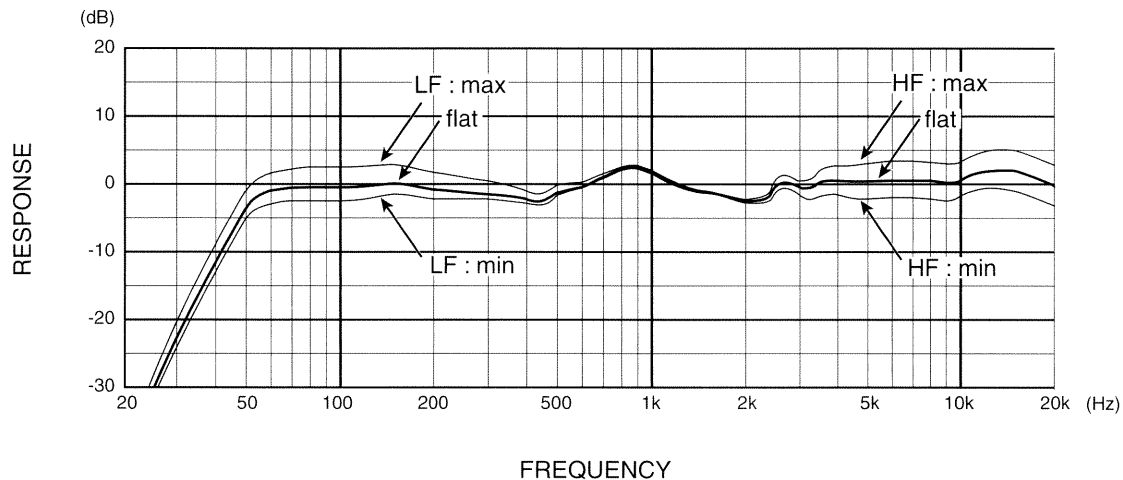
** In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

Dimensions



* Not include the Power cord.

Frequency Response



This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

For EU Countries

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment. This equipment requires shielded interface cables in order to meet FCC class B Limit.

For the USA

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For Canada

Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

AFRICA

EGYPT

Al Fanny Trading Office
P.O. Box 2904,
El Horrieh Heliopolis, Cairo,
EGYPT
TEL: (02) 4185531

REUNION

Maison FO - YAM Marcel
25 Rue Jules MermanZL
Chaudron - BP79 97491
Ste Clotilde REUNION
TEL: 28 29 16

SOUTH AFRICA

That Other Music Shop
(PTY) Ltd.
11 Melle Street (Cnr Melle and
Juta Street)
Braamfontein 2001
Republic of SOUTH AFRICA
TEL: (011) 403 4105

Paul Bothner (PTY) Ltd.
17 Werdmuller Centre Claremont
7700
Republic of SOUTH AFRICA

P.O. Box 23032
Claremont, Cape Town
SOUTH AFRICA, 7735
TEL: (021) 64 4030

ASIA

CHINA

Beijing Xinghai Musical
Instruments Co., Ltd.
6 Huangmuchang Chao Yang
District, Beijing, CHINA
TEL: (010) 6774 7491

HONG KONG

Tom Lee Music Co., Ltd.
Service Division
22-32 Pun Shan Street, Tsuen
Wan, New Territories,
HONG KONG
TEL: 2415 0911

INDIA

Rivera Digitec (India) Pvt. Ltd.
409, Nirman Kendra Mahalaxmi
Flats Compound Off. Dr. Edwin
Moses Road, Mumbai-400011,
INDIA
TEL: (022) 498 3079

INDONESIA

PT Citra Inti Rama
Jl. Cideng Timur No. 15J-150
Jakarta Pusat
INDONESIA
TEL: (021) 6324170

KOREA

Cosmos Corporation
Service Station
261 2nd Floor Nak-Won Arcade
Jong-Ro ku, Seoul, KOREA
TEL: (02) 742 8844

MALAYSIA

Bentley Music SDN BHD
140 & 142, Jalan Bukit Bintang
55100 Kuala Lumpur, MALAYSIA
TEL: (03) 2443333

PHILIPPINES

G.A. Yupangco & Co. Inc.
339 Gil J. Puyat Avenue
Makati, Metro Manila 1200,
PHILIPPINES
TEL: (02) 899 9801

SINGAPORE

Swee Lee Company
150 Sims Drive,
SINGAPORE 387381
TEL: 748-1669

CRISTOFORI MUSIC PTE LTD

Bik 3014, Bedok Industrial Park E,
#02-2148, SINGAPORE 489980
TEL: 243 9555

TAIWAN

ROLAND TAIWAN
ENTERPRISE CO., LTD.
Room 5, 9fl. No. 112 Chung Shan
N.Road Sec.2, Taipei, TAIWAN,
R.O.C.
TEL: (02) 2561 3339

THAILAND

Theera Music Co., Ltd.
330 Verng NakomKasem, Soi 2,
Bangkok 10100, THAILAND
TEL: (02) 2248821

VIETNAM

Saigon Music
138 Tran Quang Khai St.,
District 1
Ho Chi Minh City
VIETNAM
TEL: (08) 844-4068

AUSTRALIA/NEW ZEALAND

AUSTRALIA

Roland Corporation
Australia Pty. Ltd.
38 Campbell Avenue
Dee Why West. NSW 2099
AUSTRALIA
TEL: (02) 9982 8266

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